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## ABSTRACT

Ownership rates of advanced communication technologies among Hispanic families are lower than the national average. Going beyond socioeconomic (i.e., family income, educational attainment, and occupation) indicators as key predictors of the so-called technology gap, this paper relies on qualitative analysis of Hispanic families' attitudes and opinions about computers to provide a richer context for understanding the gap. Six focus groups were conducted in the summer of 1997 (n=72). Interviewees were recruited from Santa Ana and Riverside, California, and were eligible to participate if: (1) they were heads of household of Hispanic origin; (2) their yearly family income was between \$25,000 and \$65,000; and (3) they did not already own a home computer. Focus groups were balanced in terms of gender, and participant ages ranged from 21 to 64. Santa Ana focus groups tended to include mostly college-educated, professional, English-speaking, and native-born respondents, while Riverside focus groups included predominantly non-college-educated, working-class, Spanish-speaking, and foreign-born participants. The results of the focus group dialogues provided support for the following key findings. First, most respondents (over 90%) believed strongly that Hispanics need computers to keep up with progress. Not only were computers considered to be important, they were ranked behind "taking a vacation" as a priority in their household. Second, notwithstanding common wisdom, which suggests that Hispanic parents want a home computer principally for their children, focus groups revealed that heads of household most likely to purchase a PC in the next year would buy it for their own personal use as well as for their children. Third, while respondents found many advantages to owning a computer, the drawbacks were formidable, including anxiety over pornography on the Internet (a concern for two-thirds of participants, mainly female interviewees) as well as the antisocial nature of using computers in a family setting. (LPP)

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## Buying into the Computer Age: A Look at Hispanic Families

Anthony Wilhelm ■

### **Abstract**

Ownership rates of advanced communication technologies among Hispanic families are lower than the national average. Going beyond socioeconomic (i.e., family income, educational attainment, and occupation) indicators as key predictors of the so-called technology gap, this paper relies on qualitative analysis of Hispanic families' attitudes and opinions about computers to provide a richer context for understanding the gap. Six focus groups were conducted in the summer of 1997 ( $n = 72$ ). Interviewees were recruited from Santa Ana and Riverside, California, and were eligible to participate if: (1) they were heads of household of Hispanic origin; (2) their yearly family income was between \$25,000 and \$65,000; and (3) they did not already own a home computer. Focus groups were balanced in terms of gender, and participant ages ranged from 21 to 64. Santa Ana focus groups tended to include mostly college-educated, professional, English-speaking, and native-born respondents, while Riverside focus groups included predominantly non-college-educated, working-class, Spanish-speaking, and foreign-born participants. The results of the focus group dialogues provided support for the following key findings. First, most respondents (over 90%) believed strongly that Hispanics need computers to keep up with progress. Not only were computers considered to be important, they were ranked behind "taking a vacation" as a priority in their household. Second, notwithstanding common wisdom, which suggests that Hispanic parents want a home computer principally for their children, focus groups revealed that heads of household most likely to purchase a PC in the next year would buy it for their own personal use as well as for their children. Third, while respondents found many advantages to owning a computer, the drawbacks were formidable, including anxiety over pornography on the Internet (a concern for two-thirds of participants, mainly female interviewees) as well as the antisocial nature of using computers in a family setting. ■

### **Introduction**

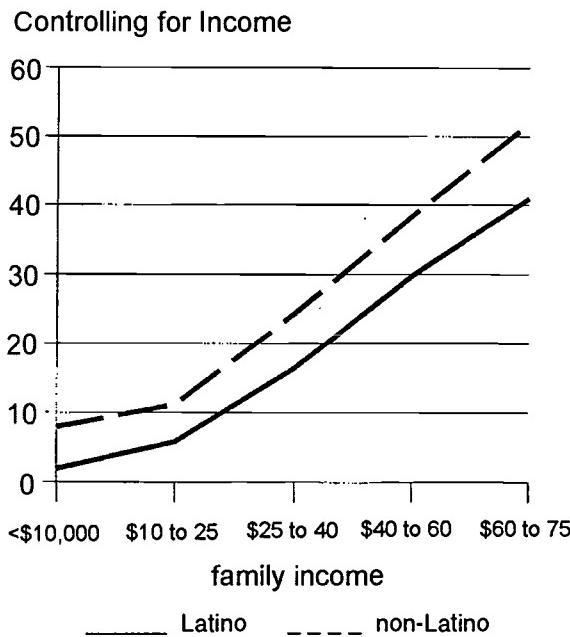
A substantial gap in access to basic and advanced communication technologies separates Hispanics from society as a whole. For example, telephone penetration is lower among Hispanic households than Anglo households (Federal Communications Commission, 1997), and the same is true for computer ownership (National Telecommunications and Information Administration, 1995) and Internet use (Graphic, Visualization, and Usability Center, 1997). High-quality access to computers is important, as the U.S. Department of Commerce (1997) suggests in its report *America's New Deficit*, because "the sweep of digital technologies and the

transformation to a knowledge-based economy have created robust demand for workers highly skilled in the use of information technology."

While there is a temptation to explain the technology gap solely in terms of socioeconomic conditions, recent research has revealed this approach to be reductive. With respect to telephone penetration, for example, Mueller and Schemert (1995) described other reasons in addition to family income that explain whether a householder chooses to purchase telephone service. In addition, in analyzing U.S. Census data on computer ownership, Wilhelm (1996) showed that variables measuring socioeconomic status, such as occupation,



educational attainment, and family income, did not fully capture why Latinos lag behind their counterparts in home PC access. As Figure 1 reveals, at every (family) income group below \$75,000, there is a substantial difference between Hispanics and non-Hispanics.



**Figure 1. Home computer ownership.**

Of course, socioeconomic status (SES) is critical to understanding computer ownership (Dutton, Sweet, & Rogers, 1989). Without disposable income, a householder cannot purchase a computer. People with some college education are more likely to find uses for home computers than are persons who have not completed high school. And those who occupy white-collar occupations are more likely to find reasons for needing a personal computer than are blue-collar workers. Nevertheless, when these SES indicators are held constant, Hispanics remain less likely than non-Hispanics to own a computer.

The next logical step in the research was to explain this ownership divide. This goal was pursued using focus groups. Focus groups are group interviews of 10 to 15 people, lasting 2 to 3 hours, on a limited number of issues. Of course, there are many income-related factors that probably explain part of this phenomenon, such as disposable income and family structure—issues that are discussed briefly in the concluding section of this report. The thrust of the qualitative focus group approach, however, entails probing respondents' attitudes toward and opinions about computers, their information-seeking

behavior, as well as their experience with and exposure to computers outside of the home, such as in the workplace or at a community location.

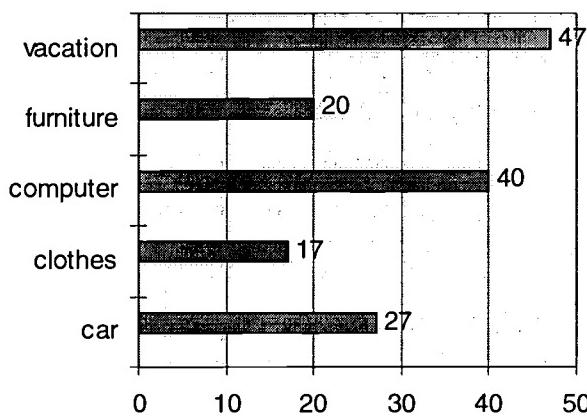
While Census data enable us to identify factors that are associated with computer ownership, focus groups provide insight into the contours of people's lives, providing a context in which to understand better the patterns that distinguish certain ethnic and racial groups. These focus groups, then, are not representative of the Hispanic middle class as a whole; rather, they are at best suggestive of the sorts of opinions and attitudes that many Hispanics may hold.

Six focus groups were conducted from June to August 1997 comprising Hispanic adults recruited from the communities surrounding Santa Ana and Riverside, California. Individuals were able to participate if: (1) they were heads of household of Hispanic origin; (2) their yearly family income was between \$25,000 and \$65,000; and (3) they did not already own a home computer. Focus groups were balanced in terms of gender, and participant ages ranged from 21 to 64. When a participant is quoted in this paper, a brief profile is usually attached—typically, occupation, age, or household size—which provides a context to help readers visualize characteristics of people whom we interviewed. Santa Ana focus groups tended to include mostly college-educated, professional, English-speaking, and native-born respondents, while Riverside focus groups included predominantly non-college-educated, working-class, Spanish-speaking, and foreign-born participants.

### Attitudes toward Computers

There is a general sense among the Hispanic heads of household whom we interviewed that computers are synonymous with the future, and that without access to advanced technologies, they and their families will not be able to keep up with progress. As one participant said, "the bus left without me, and maybe I should try to catch it." Teresa, a homemaker with four kids, proclaimed that "the computer is something wonderful . . . [and] as a mother, I don't want to be left behind." All told, the Hispanics whom we interviewed merely reflect the American faith in technology. As Grossman (1995, p. 166) suggests, "Americans have always had exuberant faith in the power of technology to improve society," and through the power of the market-driven media, this faith has been more or less maintained.

Purchasing a computer is also a priority among our interviewees. Our respondents played a hypothetical game in which they were asked to spend \$10,000 on whatever big ticket item they wanted (up to five choices). The only stipulations were: (1) they had to spend at least \$2,000 per item, and (2) they could not use the money to pay off debt. This game was played at the beginning of the focus group session, before participants were tipped off to the fact that they were being interviewed regarding their attitudes toward computers. Participants wrote down their answers rather than expressing them out loud, since it is often the case that when people's opinions are solicited orally, they are modified or biased in light of what previous respondents expressed. Figure 2 shows the five most popular responses from our 72 focus group participants. Interestingly enough, the computer was the second most frequently cited "big ticket" item, next to travel/vacation. Forty out of 72 respondents ranked computers on their list of items that they would like to purchase if they had the disposable income.



**Figure 2. Prioritization of "big ticket" items (*n* = 72).**

On the whole, parents agree that their children's use of computers is generally a good thing. In large measure, parents' attitudes toward computers are based on the good opinion their children have of their use of computers in school. Parents suggested that their children's experience with computers made them more likely to purchase one in the future. As Tom said concerning his child, "For me, when they come home from computer lab, that's what they talk about, 'Oh, I worked in the computer lab today. It was really cool. I learned all these different things.'"

At the same time, parental attitudes change when computers are put in a broader context of learning. For example, parents were concerned that their children learn the basics before they are exposed to computers. Ruben, an appliance salesperson with two children, argued that "if the child doesn't learn how to read, write, and express himself, the computer is not gonna help that person very much." Among Spanish-speaking parents, moreover, there is a concern that learning materials need to be in Spanish so that parents can help their children with their homework. There is an overriding concern that students bring home books to study and less of a desire for computer-assisted learning, unless it was bilingual.

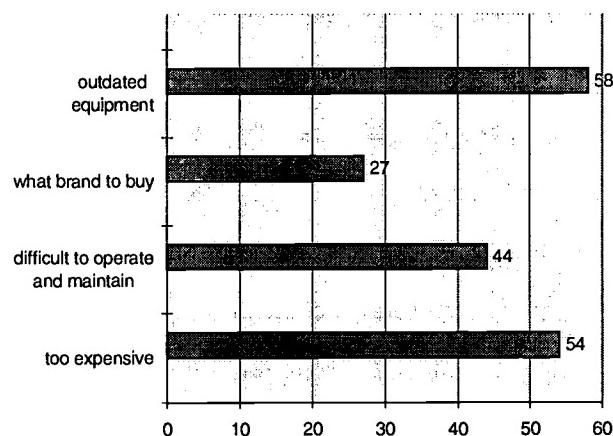
Finally, some parents intimated that as long as their children got high-quality exposure to technology in the schools, there was less of a need to have a home computer. Put another way, parents' satisfaction with their children's exposure to computers in school is inversely related to their desire to purchase one for the home. Thus, the current universal service policy—the Snowe-Rockefeller provisions of the 1996 Telecommunications Act—may actually dissuade some families from buying a computer if they feel that their children have adequate computer/Internet time at school.

### Obstacles to Ownership

The wish list enumerated in Figure 2 neither reflects what people can actually afford nor describes the relative weight of priorities within individual lists or between participants (i.e., there is no way to compare person A's preferences with person B's or how much more person A values his or her first choice over the number two preference). It should be mentioned, however, that only 10 people out of 72 ranked the computer as their first choice, while over one-third of respondents (25) said that a vacation would be their top priority if they had the money. One often thinks of upward mobility as enhancing one's quality of life, and an obvious expression of this perception is to have enough money to go on a vacation. The vacation is a reward for one's hard work that the whole family can enjoy.

While enthusiasm for computers was widespread, existing across income strata, 77% of respondents described the computer as "too expensive," as Figure 3 reveals. Many participants whose family income was in the \$25,000 to \$30,000 range were likely to rank purchasing a computer highly, while at

the same time, there was a very real sense that buying a computer would be deferred as long as they were solely able to take care of their families' essential needs, such as paying the rent or mortgage and buying food and clothes. Being middle class is more than just a social standing; it is a way of life. It may well take a generation or two of being middle class to adopt a purchasing pattern that is not so focused on basic needs. One's degree of class stability then appears to impact one's valuation of technology as an item that one can afford.



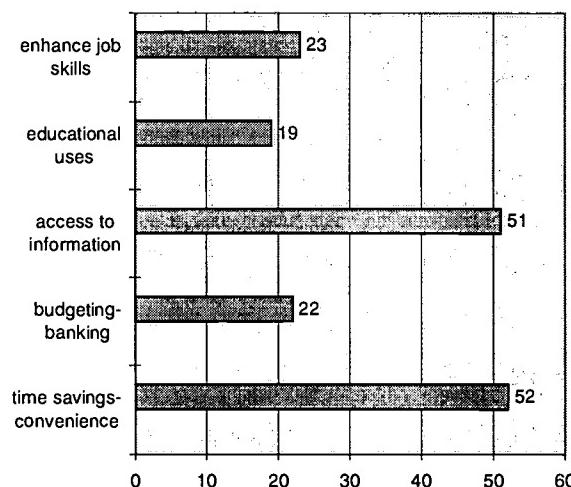
**Figure 3. Obstacles to computer ownership ( $n = 70$ ).**

An overwhelming majority of participants were also confused about what sort of computer they should buy and what all of the components would do for them. Sean, a financial consultant in his early 30s, suggested that purchasing a computer is a little like buying a car: salespeople are always trying to sell you more than you need. Joe, a letter carrier with two children, expressed concern over "sorting all the options," since there are so many computer brands from which to choose. Once the computer was purchased, they feared that it would be immediately outdated. As Paul, a hotel salesperson in his late 30s, suggested, "A year down the line, your [computer] has been upgraded, and now you're a step back. Now you have to do a lot more upgrading." There was a grave concern among many participants that such a considerable monetary investment is hard to justify given the brief half-life of computer technology.

#### **Advantages and Disadvantages of Computer Ownership**

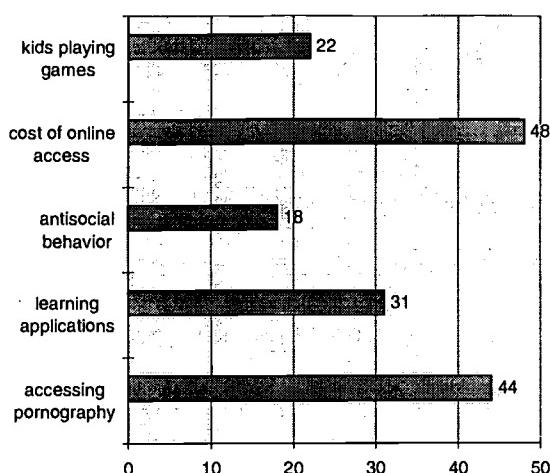
Focus group participants articulated a long list of benefits and drawbacks to owning a computer, as Figures 4 and 5 show. While it is difficult to assess

the relative merits of their concerns, it does appear that substantial obstacles exist that currently override the benefits of owning a home computer. Whether it be anxiety over pornographic content on the Internet or settled reliance on what are perceived as more credible and relevant media outlets, such as newspapers and television, important factors stymie families in their desire to remain "up to date" with society.



**Figure 4. Benefits of computer ownership ( $n = 64$ ).**

The advantages ranged from the imminently practical to the more abstract. On the more tangible side of things, 81% of participants said that computers would add convenience and enable them to organize their lives better. One participant, Amalia, was very interested in doing her banking via the computer: "I go for the convenience. I'm practical, and I think this would be very practical." Eighty percent of respondents also expressed the view that computers enable access to information. Of course, computers alone do not allow the delivery of content, unless the owner has also, say, purchased a modem and has subscribed to an online service (or has purchased CD-ROM material). This conflating of computers with the Internet was very common among participants. Many heads of household believed that buying computers would *eo ipso* enable access to content. Finally, others exclaimed that people need computer skills to be marketable in today's economy. As Joe stated, "I would think that [if] a teenage kid, Hispanic kid, knew how to work computers, I would say that he had a very good chance of getting employment."



**Figure 5. Drawbacks of computer ownership (n = 67).**

On the downside, as Figure 5 reveals, parents were acutely concerned that their children would use the computer unwisely. For example, mothers of school-age children were particularly concerned that their children might be using the Internet at school to access pornographic material. When asked what concerned her about computers, Blanca, a housewife with three children, said that a computer "would be very beneficial to my kids. But I also worry about them getting a hold of pornography through the computer." Parents are also worried that their children, if left unsupervised, would spend all of their free time playing games on the computer rather than using it for educational purposes. What is more, a substantial number of respondents said that they believed that using the computer all the time made people antisocial. "People spend a lot of time on the computer," said Elea, a homemaker with two children. "They isolate, you know. What happened to the social? People are getting married to the computer." Being glued to the computer rather than spending time with family was a genuine concern.

Many of the disadvantages of computer ownership relate to the actual cost of online access as well as the steep learning curve necessary to master new applications. Many participants also said they did not know how to use a lot of the software applications and wanted to take a course or get help from their children. Notwithstanding the canard that operating computer applications is easy, many people continue to feel intimidated and apprehensive, because they feel that it is just too difficult to master this tool on their own.

Most focus group participants were not daunted by the difficulty of owning and operating a personal computer. While formidable barriers prevented respondents from purchasing a computer, many expressed an interest in taking computer courses to become more familiar with them. In Riverside, for example, parents of school-age children were very interested in taking computer classes, perhaps through the school, either before or after school hours. Others wanted a "nuts and bolts" class in what makes a computer and what the parts are called, not unlike knowing the parts of a car in order to become less fearful of what is under the hood. Many of the primarily Spanish-speaking, foreign-born interviewees did not have the experience with computers, either directly or indirectly (i.e., by way of neighbors, family members, or work associates), that establishes a culture of use.

#### Information Seeking, Media Habits

The number of avenues through which people can gather information and communicate with others has multiplied in recent years (Neumann, 1991). It is not uncommon today to see people in cars and shopping centers talking on portable phones or using their laptop computers on the plane or in the park. While new media (such as the Internet) are woven into the fabric of everyday life, most people remain reliant on the mass media and close associates, family, and friends for credible information.

Among our Hispanic middle-class respondents, there is a strong reliance on television, radio, and newspapers as dependable sources of information and news. Television, for example, substitutes for first-hand and direct experience, allowing viewers to share information and experiences (Meyrowitz, 1985). This said, people say they want information on any subject in which they have interest whenever they want it—a capability traditional media do not allow. With broadcast television, viewers must adjust their schedule to the time when a program is being aired. With newspapers, subscribers are limited to the content that is provided. With the Internet, of course, stored data, audio and video, can be retrieved and viewed when it is convenient for the end user. This freedom appeals to people, while they nevertheless remain comfortable with more traditional media.

Most respondents did not have a great familiarity with the Internet, although there was the sense among several participants that it was like a

librarian to whom questions could be posed and answers given. Of course, a host of searches can be performed on the Internet on an array of topics, but the successfully retrieved content may or may not be what one is looking for and may or may not be accurate. Unlike the librarian, the Internet cannot discriminate as to the content downloaded or assess a patron's needs.

Many focus group participants evinced a strong trust in print media, such as books, magazines, and newspapers. When it came to "authoritative" sources for educational materials for their children or information for themselves (e.g., legal, tax, "how to"), most believed that a trip to the library, bookstore, or museum was the best course of action. Respondents were asked where they would turn if their child needed to find out more information on dinosaurs, and a majority said, without hesitating, that they would take their child to the library, to the museum, or buy them a book. A few participants also said they would take their children to see *The Lost World*. The Internet was rarely mentioned as respondents' medium of choice.

Print media and the personality-driven television are not only seen as more credible alternatives than the Internet, they are also what people are used to. When asked how they would feel about newspapers going online, Daniel, an assistant manager for a sports-related business, said "I would rather have it in paper. It's just a natural thing with everybody." And Hortencia, a service contractor with two kids, suggested similarly that part of her daily ritual involved the newspaper: "In the morning, I get the paper and glance at it and get coffee and out the door. I would not have time to log into a computer. . . ." The print media are viewed as more credible sources of information, such as most of the materials one is likely to obtain in a library. As Sean suggests, "I love reading, and I find that technical information is more thorough through magazines, newspapers, articles. If you have the specific subject, then usually the written materials are more informative, more descriptive."

These media habits, coupled with the "ritual" that governs many people's lives—glancing at the paper in the morning and scanning the evening news before bed—suggest that the Internet would require adjustments in the way media are perceived and how people go about their lives. As long as people are more comfortable with their daily newspaper and nightly media personalities, then the Internet

may not be the medium of choice for information and news for many, unless the delivery of content is made more relevant to the lives of Hispanic consumers. Will there soon be Internet personalities, for example, who can help guide people through the vast wilderness that is online information retrieval?

### **Exposure to Computers**

Earlier it was suggested that the more heads of household experience computers, the more likely they are to purchase them for their own personal home use. Taking computer classes, using a computer in the workplace, or visiting one's child in the school computer lab probably make parents more likely to want one for their family. Many of the anxieties that people have about computers, such as fear of addiction to computer games and online chat groups, may be overcome if parents actually gain exposure to computers themselves.

Most respondents who lived in Orange County, whose average income was in the \$40,000 to \$50,000 range, have been exposed to computers, either in the workplace or at a family member's house. These experiences seem to increase the probability that they will invest in a computer in the near future. The Spanish-speaking, foreign-born respondents tended to have less exposure to computers. While their enthusiasm for computers was considerable, their limited experience made them less assured about their prospects of purchasing a computer.

Hispanics have less experience with computers in school, in the workplace, and at home, which means that use patterns have not been fully developed. As experience with and exposure to computers increase, we can most likely expect that anxiety, fear, and apprehension vis-à-vis computer technology will also diminish, just as anxiety about cars is less pronounced among those who can change oil and fix a flat tire. As they become imbedded in everyday life, computers will become second nature to prospective users.

### **Social and Political Issues**

When asked who should be responsible for ensuring that all school children gain access to computers in public schools, most heads of household believed that the government (tax-payers) should subsidize Internet access. Many believed that public schools should be access

points to which low-income people can come who do not own a computer. As Leonard, a paralegal and property manager, put it, "I think it should be a combination of the government and the manufacturers to make [computers] accessible to schools, libraries, and all teaching institutions. I think both should play a part financially and technologically." Ron, a Department of Motor Vehicles (DMV) field representative with two kids, stressed that "in a perfect world, everybody would have the money to pay for computer access, but there are some schools that just cannot afford it; they need extra help."

Participants saw subsidizing access as providing benefits not only to students but to government and industry as well. As Hortencia emphasized, "the government . . . wants the kids to come out of high school and be computer knowledgeable, but if they don't give them the proper tools, then they are not going to do it." Similarly, one participant said that "I think if the computer company wanted to make profits, they would make their computers accessible to young people. . . . A person is going to be familiar with that computer and in the future he will buy one."

Of the crucial issues facing the Hispanic community, such as education, jobs, and public safety, information technology did not come up as a major issue independent of the other issues. For example, Joe, a letter carrier, said that "we [Hispanics] have to be educated in the technology to compete . . . otherwise, we are gonna be out doing the unskilled jobs." Thus, computer literacy is tied to educational opportunity and economic progress. In short, technology is seen as a tool or a means to achieve certain ends, such as better results in school and better jobs. When viewed in this light, the terms technology and computer are converted to something more concrete, that is, the quality of life of one's family.

### Recommendations

Focus group participants were asked to brainstorm ways in which Hispanics could become more interested in and gain greater access to computers. It was already suggested that sound public policy can lead to increased access to computers. Subsidizing low-income access to advanced telecommunications services and providing students high-quality exposure to computers in public schools are healthy starts. Additional recommendations include

the following. First, there is a need for greater experience with and exposure to computers through adult classes in schools, churches, and community centers. Respondents suggested that they needed to become more knowledgeable about the "nuts and bolts" of how a computer works, its parts, as well as its important applications. Before-and after-school mentor programs were discussed as possible venues for these lifelong learning classes, as well as via community centers and church-sponsored events, so that adults as well as children can develop the skills they need to be employable in today's society.

Second, a "consumer report" in Spanish is needed of the best brands and types of hardware and software, presented in a format that is relevant to potential Hispanic consumers. There was a great deal of consternation among participants over sorting out what the best computer was to meet their needs. Many people were worried that buying a computer was a little like purchasing an automobile: salespeople were always trying to sell more than the consumer needed. According to many heads of household, a guide for consumers, published regularly, would appease their fears about the appropriate equipment to meet their family's needs. Personal testimonies and recommendations from familiar personalities in the community might help consumers trying to sort out who to trust when they go to purchase computers.

Third, advertisements in community as well as ethnic media are necessary. A majority of the middle-class Hispanics with whom we talked suggested that the advertising they saw made them more likely to want to purchase a computer. However, there was a consensus that computer ads were fairly infrequent on Spanish-language community and ethnic media. Among those who are primarily English-speaking, community media, such as local cable providers, are appropriate channels for advertising to local audiences.

Finally, media literacy and critical thinking skills are required to navigate the Internet. A not-so-uncommon perception of the Internet among those whom we interviewed was that it provided answers to questions that end users or subscribers pose. It was analogized to a librarian who responds to a patron's needs by directing him or her to the appropriate source. Of course, the Internet is unlike the library in that the information retrieved by using a search engine may or may not be useful and

accurate. It takes media literacy, background knowledge, and critical thinking skills to navigate the loads of information that the Internet can provide. Along with the "nuts and bolts" classes, adults need to learn to navigate the Internet—a sort of driver's-ed course—so as to best help themselves and their children learn.

### Conclusion

It was stated in the opening lines of this paper that the technology gap has not been well diagnosed. While income inequality between Hispanics and Anglos is usually considered to be the principal reason for the disparity in computer ownership, the findings reported here point to factors beyond one's economic capacity that may well explain the gap. These characteristics may not be unique to Latinos (since we did not conduct focus groups on Anglos similarly situated), but the following patterns prevail among the Hispanics whom we interviewed.

The direct or indirect experience with and exposure to computers may well impact the extent to which middle-income Hispanic householders are ready to purchase a computer for themselves and their families. Spanish-speaking participants and recent immigrants emerge from a background in which there is little or no direct experience with computers. They have very few if any relatives, neighbors, and co-workers who use computers; thus, their anxiety and fear about computers is not mitigated. Those members of the Hispanic middle class who do not speak Spanish and who have had a comfortable income for at least a generation now use computers in the workplace and have friends, family members, and neighbors who have bought computers. It may well be the case, however, that patterns of use are more firmly rooted in Anglo households where ownership and use rates in all walks of life are higher than among Hispanics.

In addition, it may be the case that the length of time one has been in the middle class affects one's attitudes toward technology. Those heads of household who have only recently gained middle-class status may very well carry over their concern with meeting basic needs; thus, their purchasing priorities are less attuned to the acquisition of computer technology.

Lack of familiarity, exposure, and direct experience with computers among Hispanic parents manifests itself in feelings of anxiety, apprehension, and fear over the role computers play in the lives of their

children. Concerns over pornography, playing games rather than working, and the potential for social isolation reflect a lack of confidence and control over the technology. As patterns of use settle in and parents become aware of how computers can be harnessed to benefit themselves and their families, this anxiety will likely be alleviated.

### References

- Dutton, W. H., Sweet, Patrick L., & Rogers, Everett M. (1989). Socioeconomic status and the early diffusion of personal computing in the United States. *Social Science Computer Review* 7(3), 259–272.
- Federal Communications Commission. Common Carrier Bureau. (1997). *Trends in telephone service* [Online]. Available: <http://www.fcc.gov/ccb/> [1997, October].
- Graphic, Visualization, and Usability Center. (1997). *Seventh WWW user survey* [Online]. Available: <http://www.cc.gatech.edu/gvu> [1997, October].
- Grossman, Lawrence K. (1995). *The electronic republic: Reshaping democracy in the information age*. New York: Twentieth Century Fund.
- Meyrowitz, Joshua. (1985). *No sense of place*. Oxford, UK: Oxford University Press.
- Mueller, Milton, & Schemett, Jorge. (1995). *Universal service from the bottom up: A profile of telecommunications access in Camden, New Jersey*. New Brunswick, NJ: Rutgers University School of Communication.
- National Telecommunications and Information Administration. (1995, July). *Falling through the net* [Online]. Available: <http://www.ntia.doc.gov/reports.html> [1997, October].
- Neumann, Russell W. (1991). *The future of the mass audience*. New York: Cambridge University Press.
- U.S. Department of Commerce, Office of Technology Policy. (1997). *America's new deficit: The shortage of information technology workers* [Online]. Available: <http://www.ta.doc.gov/OTPolicy/reports.htm> [1997, October].
- Wilhelm, Anthony. (1996). *Latinos and information technology: Preparing for the twenty-first century*. Claremont, CA: The Tomás Rivera Policy Institute.



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